IEEE P802.11  
Wireless LANs

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| TGbi Teleconference Minutes November 09th 2023 | | | | |
| Date: 2023-11-10 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
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Abstract

This document contains the minutes for the IEEE 802.11bi task group meetings that took place Thursday November 09th.

Note: Highlighted text are action items.

Q – proceeds a question

A - proceeds an answer

C - proceeds a comment

Yellow highlight - action point

**November 09th:**

**Chair: Carol Ansley, Cox Communications**

**Secretary: Stéphane Baron**

**Vice-chairs: Jerome Henry, Cisco; Stephen McCann, Huawei**

**Technical editor: Po-Kai Huang, Intel**

Chair calls meeting to order at 10:02 ET.

Agenda slide deck: [11-23-1680r8](https://mentor.ieee.org/802.11/dcn/23/11-23-1680-08-00bi-telecom-agenda-sept-oct-nov.pptx):

1. Reminder to do attendance
2. Review of policies and procedures.
   1. IEEE individual process slides were presented.
3. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
4. The chair covered the IEEE copyright policy and participation rules.
   1. No questions
5. **Discussion of agenda 11-23-1680r8 (slide #16)**
   1. Discussion on agenda

No discussion

* 1. Adoption of agenda by unanimous consent (18 participants).

1. **Administrative**
   1. Upcoming meeting times during Plenary:

Monday – AM1 (ad hoc)

Tuesday – PM2

Wednesday – PM2

Thursday – PM1

* 1. Chair calls for presentations

Chair called for contributions to setup F2F meeting agenda and required sessions for the TGbi task group.

Several people announced contributions to be presented next week:

* + - Phil Hawkes/Duncan Ho – 1 submission (not Monday)
    - Stéphane Baron - 23/1983r0
    - Antonio – 1 submission
    - Patrice – 23/1982r0
    - Po-Kai – 2 submissions
    - Julien – 23/1147r1 – Monday
    - Jarkko – 1 submission

1. **Technical Submissions**
   1. [11-23/1876r1](https://mentor.ieee.org/802.11/dcn/23/11-23-1876-01-00bi-mac-change-discussion-irm.pptx) – MAC Change discussion IRM - Graham Smith

Graham presents the contribution that proposes to reuse 11bh IRM mechanism as basic mechanism for the RCM while associated in 11bi.

* + 1. Discussion

Q: On a strict Epoch change I agree that we need something more flexible, but can we describe something in bi that is under description in 11bh.

A: 11bh will certainly be published before 11bi so bi will be based on 11bh

Q: In your presentation, a station does a new association, so what to do with the previous one?

A: Both associations may live for a while and the AP will not be disturbed.

Q: 11bi has requirements for both the AP and the STA to initiate the change of MAC address, individually for the STA and MASS rotation for the AP. How does your proposal deal with Mass rotation?

A: You are right, the AP may provide a request to initiate the change of MAC addresses. The AP can tell stations that they have to change but the stations compute their MAC address by themselves.

Q: About your proposal, what frame exchanges need to be done: Authentication, Association, 4 Way handshake?

A: I don’t know if we need to perform authentication, we need to check that.

Q: We have those MAC address scheme to maintain the continuity of stream. This proposal is just resetting SN/PN, so this will not maintain data continuity, right?

A: Yes, but with other proposals I’ve seen, what about the data stored in the queue when the MAC address changes? This is the same problem. Here the station selects a time when the queue is empty to avoid this problem.

C: Now, I see what is different from scheme on the table that maintain data continuity. In your contribution you do a tradeoff between simplicity and data continuity right ?

A: yes.

C: I think this is really a problem to reset SN/PN. I understand IRM is a good proposal for 11bh, but I don’t think this scheme is well adapted to the 11bi. The reason is that frame retransmission and block ack mechanisms that will suffer from a complete reset on the transmission queue.

C: Currently all stations are also maintaining several MAC addresses, so adding one will not add a lot of burden to existing mechanism. I prefer continuing to move in direction keeping data continuity.

A: what you will end up with, is a very complicated thinks, and a lot of computation.

Q: what complexity are you referring to?

A: MAC address generation is complex and how do you deal with duplicated MAC addresses?

Q: How IRM will solve that problem?

A: This is a rare case, since the station handle the MAC address.

C: I think station want to keep control on when changing the MAC address. I also think that the station needs to reassociate to obfuscate.

Q: What about the overhead introduced by reassociating? I think the number of medium accesses and transmission time can be long in case of crowded network. So, the interruption of the connection for the upper layer application can be very long. What is your opinion?

A: right, this is definitely something we need to work on.

No more questions.

* 1. [11-23/1984r0](https://mentor.ieee.org/802.11/dcn/23/11-23-1984-00-00bi-epoch-wagon-proposal.pptx) – epoch-wagon-proposal -- Domenico Ficara

Presented by Domenico.

Document proposes a metric to evaluate the anonymity (anonymity Set Size), and a mechanism for a single STA to trigger a mass rotation, of a set of non-AP stations, based on this metric value (when a predetermined threshold is reached).

* + 1. Discussion

Q: Do you mean that the AP has to count and then decide that the station have to change?

A: A non-AP STA can individually rotate; this proposal is an addition. When the AP computes a value lower than a threshold, there will be no mass rotation.

C: Announcement of the time is ok to me; the only concern is on the computation of the Size.

Q: The station then never knows when the change will effectively occur ? A station cannot predict the instant of change.

A: After a set of Epoch without change, once the threshold is reached, the mass rotation occurs.

Q: A station may need to change the MAC address as often as possible, but we need to compute and then store the new address. Here, the station cannot know when to prepare those addresses, and this is a problem. So I think this is better when a station decides when to change.

A: If we can get to a point, we can relay mass rotation with small scale rotation, we can have a good solution.

Q: Question on the threshold value: what means value “4” in your example?

A: The non-AP Station promises to do the rotation if there are at least 4 guys in a given wagon.

Q: how a station decides its threshold value, since it can be different from one station to another?

A: Selecting the value is a trade off between probability of change and anonymity. It can be different per non-AP STA.

C: I have a contribution (1983r0) that deals with the problem of having both Mass and individual change of MAC address while being predictable. In my view, predictability for the STA and AP is essential. So, let’s discuss after I present this document.

A: OK, sure.

C: I heard people arguing about the complexity of computing a new MAC address, but the complexity of changing the MAC address can be controlled. We can propose a mechanism to add offset for instance so we should not say that this is complex to change a MAC address.

No other questions.

1. **AoB**
   1. No other business.
2. Chair adjourned the meeting at 11:29 EDT.

**Attendance**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Breakout | | Timestamp | | Name | | Affiliation | |
| TGbi | | 11/9 | | Ansley, Carol | | Cox Communications Inc. | |
| TGbi | | 11/9 | | baron, stephane | | Canon Research Centre France | |
| TGbi | | 11/9 | | Bredewoud, Albert | | Broadcom Corporation | |
| TGbi | | 11/9 | | Campiglio, Ugo | | Cisco Systems, Inc. | |
| TGbi | | 11/9 | | Chen, Junbin | | TP-Link Corporation Limited | |
| TGbi | | 11/9 | | Cui, Yaoshen | | TP-Link Corporation Limited | |
| TGbi | | 11/9 | | DeLaOlivaDelgado, Antonio | | InterDigital, Inc. | |
| TGbi | | 11/9 | | Ficara, Domenico | | Cisco Systems, Inc. | |
| TGbi | | 11/9 | | Hawkes, Philip | | Qualcomm Incorporated | |
| TGbi | | 11/9 | | Henry, Jerome | | Cisco Systems, Inc. | |
| TGbi | | 11/9 | | Ho, Duncan | | Qualcomm Incorporated | |
| TGbi | | 11/9 | | Huang, Po-Kai | | Intel | |
| TGbi | | 11/9 | | Li, Haozheng | | TP-Link corporation Limited | |
| TGbi | | 11/9 | | Magrin, Davide | | Meta Platforms Inc. | |
| TGbi | | 11/9 | | Miwa, Shinya | | Canon Research Centre France | |
| TGbi | | 11/9 | | Mutgan, Okan | | Nokia | |
| TGbi | | 11/9 | | Nezou, Patrice | | Canon Research Centre France | |
| TGbi | | 11/9 | | Patwardhan, Gaurav | | Hewlett Packard Enterprise | |
| TGbi | | 11/9 | | Sam, Harvey | | Broadcom Corporation | |
| TGbi | | 11/9 | | Sevin, Julien | | Canon Research Centre France | |
| TGbi | | 11/9 | | Smith, Graham | | SRT Wireless | |
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